

Abstract

The output bitrate of an MPEG-2 video encoder depends on the source data rate, the content or detail or degree of motion in the source pictures, the prediction type and on quantiser settings. The control of the encoder output bitrate is based on the filling level of a buffer containing VLC words. Corresponding to the actual filling level of this VLC buffer the quantiser settings are adapted in order to achieve a constant-bitrate encoder output. DVD-RAM devices are now on the market that are capable of storing such MPEG-2 video encoded video sequences. The bitrate control algorithm used has a severe impact on the achievable visual picture quality of the encoded video sequence. Therefore the current filling levels of two further buffers in the processing chain are additionally taken into account for the bitrate control: for the application with DVD-RAM, the mechanical buffer of a DVD recorder and the therein loaded DVD-RAM disc itself. The bitrate control scheme is mainly applied to the quantiser settings or characteristics.